UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
CHAN, SAI MING

ART UNIT	PAPER NUMBER
2416	

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12/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/813,226	HONARY ET AL.
	Examiner	Art Unit	
	Sai-Ming Chan	2416	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>9/26/2008</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>6-30</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>6-30</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 12/17/2008, 8/15/2006,

12/15/2006 and 3/26/2008 have been considered by the Examiner and made of record

in the application file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating

obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 6-13, 15, 17-24, 27, and 30 are rejected under 35 U.S.C. 103(a) as

being unpatentable over **Gonzalez et al. (U.S. Patent Publication #20040250046),**

in view of **Leyonhjelm et al. (U.S. Patent #6973135).**

Consider **claim 6, 9, 17, 20 and 27,** Gonzalez et al. clearly disclose and show a

method comprising configuring a plurality of processing elements (fig. 1 (PEs),

paragraph 32) within a heterogeneous configurable circuit (paragraph 0033

(heterogenous array)) to demultiplex a data stream (fig. 9 (914), paragraph 0084

(mux/demux)), operate on portions of the data stream in parallel (paragraph 0063 (in

parallel)), and multiplex results to a second data stream (fig. 9 (938), paragraph 0084

(mux/demux)).

However, Gonzalez et al. do not specifically disclose overlapping segments.

In the same field of endeavor, Leyonhjelm et al. clearly show overlapping

segments (col. 17, lines 30-42 (overlap the consecutive blocks)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a method of plurality of processing elements, as taught by Gonzalez et al., and demonstrate the overlapping segments, as taught by Leyonhjelm et al., so that blocks can be combined (col. 17, lines 30-42).

Consider **claim 7**, and **as applied to claim 6 above,** Gonzalez et al. clearly disclose and show a method as described.

However, Gonzalez et al. do not specifically disclose overlapping segments comprising data packets.

In the same field of endeavor, Leyonhjelm et al. clearly show overlapping segments (col. 17, lines 30-42) comprising data packets (col. 16, lines 8-12 (data streams)).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate a method of plurality of processing elements, as taught by Gonzalez et al., and demonstrate the overlapping segments, as taught by Leyonhjelm et al., so that packets can be routed efficiently.

Consider **claim 8**, and **as applied to claim 7 above,** Gonzalez et al. clearly disclose and show a method wherein configuring at least one programmable element comprises configuring the at least one programmable element (fig. 9 (942 (mux/demux),

paragraph 0084; 916(AIM), paragraph 0086) to route data packets to a plurality of

processing elements capable of filtering data (fig. 8, paragraph 0081 (bundling)).

Consider **claim 10**, and **as applied to claim 9 above**, Gonzalez et al. clearly

disclose and show a method wherein configuring the heterogeneous configurable

device to demultiplex a packet-based input stream comprises configuring a

programmable element that is coupled to routers (fig. 1(150s(154 (processor network

switch))), paragraph 0034) in a row and column arrangement (fig. 1).

Consider **claim 11**, and **as applied to claim 9 above**, Gonzalez et al. clearly

disclose and show a method wherein configuring the heterogeneous configurable

device to route the plurality of separate data streams (fig. 9 (912 (mux/demux)))

comprises configuring a programmable element that is coupled to routers (fig. 1 (154s),

paragraph 0034) in a row and column arrangement (fig. 1).

Consider **claim 12**, and **as applied to claim 9 above**, Gonzalez et al. clearly

disclose and show a method wherein configuring the heterogeneous configurable

device to multiplex output packets from processing elements in parallel (paragraph 0063

(in parallel)) comprises configuring a programmable element that is coupled to routers

(fig. 1 (154s), paragraph 0034) in a row and column arrangement (fig. 1).

Consider **claim 13**, and **as applied to claim 9 above**,

        claim 18, and **as applied to claim 17 above**,

        claim 19, and **as applied to claim 18 above**,

        claim 28, and **as applied to claim 27 above**

Gonzalez et al. clearly disclose and show a method wherein configuring the

heterogeneous configurable device to route the plurality of separate data streams (fig. 9

(912 (mux/demux))) comprises configuring a programmable element to route the

separate data streams to a plurality of processing elements (fig. 8 (800-804)) capable of

filtering data (fig. 8, paragraph 0081 (bundling)).

Consider **claim 15**, and **as applied to claim 13 above**,

        claim 30, and **as applied to claim 27 above**

Gonzalez et al. clearly disclose and show a method as described.

However, Gonzalez et al. do not specifically disclose FIR as a filtering function.

In the same field of endeavor, Agee et al. clearly show FIR as a filtering function

(paragraph 0120 (FIR)).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of invention to incorporate a method of plurality of processing elements, as

taught by Gonzalez et al., and demonstrate the FIR, as taught by Khan et al., so that

packets can be routed efficiently.

Consider **claim 21**, and **as applied to claim 20 above**,

claim 22, and **as applied to claim 21 above**,

claim 23, and **as applied to claim 20 above**,

claim 24, and **as applied to claim 23 above**

Gonzalez et al. clearly disclose and show a method wherein configuring the

heterogeneous configurable device to route the plurality of separate data streams (fig. 9

(912 (mux/demux))) comprises configuring a programmable element to route the

separate data streams to a plurality of processing elements (fig. 8 (800-804)) capable of

filtering data (fig. 8, paragraph 0081 (bundling)).

However, Gonzalez et al. do not specifically disclose overlapping sub-streams.

In the same field of endeavor, Leyonhjelm et al. clearly show overlapping sub-

streams (col. 16, lines 8-12 (data streams), col. 17, lines 30-42 (overlap the consecutive

blocks)).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of invention to incorporate a method of plurality of processing elements, as

taught by Gonzalez et al., and demonstrate the overlapping segments, as taught by

Leyonhjelm et al., so that packets can be routed efficiently.

Claims 14, 16 and 29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over **Gonzalez et al. (U.S. Patent Publication #20040250046),** in

view of **Leyonhjelm et al. (U.S. Patent #6973135),** and in view of **Agee et al. (U.S.**

Patent Publication #20040095907).

Consider **claim 14**, and **as applied to claim 13 above**,

  claim 29, and **as applied to claim 27 above**

Gonzalez et al. clearly disclose and show a method as described.

However, Gonzalez et al. do not specifically disclose FFT as a filtering function.

In the same field of endeavor, Agee et al. clearly show FFT as a filtering function
(fig. 35, paragraph 228 (FFT algorithm)).

Therefore, it would have been obvious to a person of ordinary skill in the art at
the time of invention to incorporate a method of plurality of processing elements, as
taught by Gonzalez et al., and demonstrate the FFT, as taught by Agee et al., so that
packets can be routed efficiently.

Consider **claim 16**, and **as applied to claim 9 above**, Gonzalez et al. clearly
disclose and show a method as described.

However, Gonzalez et al. do not specifically disclose the implementation of viterbi
decoder.

In the same field of endeavor, Agee et al. clearly show processing elements are
capable of implementing a Viterbi decoder (paragraph 0501(viterbi algorithm)).

Therefore, it would have been obvious to a person of ordinary skill in the art at
the time of invention to incorporate a method of plurality of processing elements, as

taught by Gonzalez et al., and demonstrate the viterbi decoder, as taught by Agee et al.,

so that packets can be routed efficiently.

      Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable

over **Gonzalez et al. (U.S. Patent Publication #20040250046),** in view of

Leyonhjelm et al. (U.S. Patent #6973135), and in view of **Snyder (U.S. Patent**

Publication #20050138323).

     Consider **claim 25**, and **as applied to claim 20 above**,

              claim 26, and **as applied to claim 25 above**

Gonzalez et al. clearly disclose and show a method as described.

     However, Gonzalez et al. do not specifically disclose processing elements with

micro-coded filter.

     In the same field of endeavor, Snyder clearly show processing elements with

micro-coded filter (paragraph 0027 (MCA filter)).

     Therefore, it would have been obvious to a person of ordinary skill in the art at

the time of invention to incorporate a method of plurality of processing elements, as

taught by Gonzalez et al., and demonstrate MCA filter, as taught by Snyder, so that

packets can be routed efficiently.

Response to Arguments

Applicant's arguments filed on 9/26/2008, with respect to claims 6, 9, 17, 20 and

27, on pages 7-8 of the remarks, have been carefully considered.

In the present application, Applicants basically argue, that Gonzales et al. do not

teach or suggest "demultiplexing the data stream into overlapping segments". The

Examiner has modified the response with a new reference which combines with

Gonzales to provide "demultiplexing the data stream into overlapping segments". See

the above rejections of claims 6, 9, 17, 20 and 27, for the relevant interpretation and

citations found in Leyonhjelm, disclosing the limitation.

Conclusion

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed**

to:

      Commissioner for Patents
      P.O. Box 1450
      Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

      Customer Service Window
      Randolph Building
      401 Dulany Street
      Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Sai-Ming Chan whose telephone number is (571) 270-1769. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

/Sai-Ming Chan/

Examiner, Art Unit 2416

December 17, 2008

/Kevin C. Harper/

Primary Examiner, Art Unit 2416